PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants:	Chobotov et al	Examiner:	Lang Amy T.
Application No.:	10/691,849	Group Art Unit:	3731
Confirmation No:	6691	Docket:	1880-7 RCE
Filed:	October 22, 2003	Dated:	December 9, 2008

For: ENDOLUMINAL PROSTHESIS ENDOLEAK MANAGEMENT

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Signature Barbara Thomas /

APPEAL BRIEF PURSUANT TO 37 C.F.R. §41.37

Sir:

The Appellants has appealed the Examiner's Final Rejection of Claims 31-33, 35-38, 40-46, 48-54 and 56-65 dated June 26, 2008. This Appeal Brief is submitted in accordance with the provisions of 37 C.F.R. §41.37. As required by 37 C.F.R. §41.37(a)(2), please charge Deposit Account No. 08-2461 the requisite fee of $540.00 for submitting this Appeal Brief. If additional fees are required, please charge Deposit Account No. 08-2461. The Appellant has filed a timely Notice of Appeal on November 25, 2008, thus making this Appeal Brief due January 25, 2009. This Appeal Brief is being filed in support of the Notice of Appeal.

I. Real Party In Interest

The real party in interest is TriVascular2, Inc., the assignee of the entire right, title and interest in and to Application No. 10/691,849.

II. Related Appeals and Interferences

No related appeals or interferences are known to the Appellants or the Appellants' legal representative which will directly affect or be directly affected by or have bearing on the Board's decision in this appeal.

III. Status of Claims

Claims 31-65 are presently pending in the application, claims 1-30 are canceled, claims 34, 39, 47 and 55 are withdrawn, and claims 31-33, 35-38, 40-46, 48-54 and 56-65 stand as being finally rejected. These rejected claims, i.e., claims 31-33, 35-38, 40-46, 48-54 and 56-65, are being appealed.

IV. Status of Amendments

In response to the final rejection mailed June 26, 2008, a Notice of Appeal was filed on November 25, 2008 without further amendments or arguments. In addition, no further amendments have been presented after the filing of this appeal.

V. Summary of Claimed Subject Matter

The present invention, as set forth in independent **claim 31**, is directed to a system 30 for depositing an embolic material 34 in a perigraft space between an endovascular graft 10 and a body lumen wall. (Specification, paragraph 0037, lines 1-3; paragraph 0075, lines 1-2 and 5; Figs 4-5). Perigraft space is the space between an outside surface of the endovascular graft 10 and the inside surface of a body lumen. (Specification, paragraph 0040). The system 30

includes an endovascular graft 10 having a generally tubular body 53 having a proximal end 54 and a distal end 52, a proximal inflatable cuff 56 disposed at or near the proximal end 54 of the body 53, a distal inflatable cuff 57 disposed at or near the distal end 52 of the body 53 and an inflatable channel 58, 60 in fluid communication with the proximal and distal cuffs 56, 57. (Specification, paragraph 0079, lines 1-6; paragraph 0086, lines 1-4; paragraph 0087, lines 1-3; Figs 7 and 8).

The system 30 further includes a delivery device 18, 18', 32 configured to access perigraft space between the endovascular graft 10 and a body lumen wall. (Specification, paragraph 0075, lines 2-3; Fig. 5). By way of example, the device 32 may include one or more of a catheter 18, a syringe and needle 18', or other conventional devices that may be used to access a perigraft space. (Specification, paragraph 0075, lines 3-4; Fig. 5).

The system 30 further includes an occlusion assembly 36 that is configured to substantially reduce a blood flow through the endovascular graft 10. (Specification, paragraph 0076; Figs. 2-4).

The system 30 further includes a curable embolic material 34 that is delivered to the perigraft space with the delivery device18, 18', 32. (Specification, paragraph 0075, lines 5-6; Fig. 5). The embolic material includes (i) polyethylene glycol diacrylate, (ii) pentaerythritol tetra 3(mercaptopropionate), and (iii) a buffer. (Specification, paragraph 0075, lines 6-8). The polyethylene glycol diacrylate has a molecular weight between 700 and 800. (Specification, paragraph 0021, lines 3-4; paragraph 0061, line 6).

Claim 41 depends from claim 37. Claim 41 further defines the polyethylene glycol diacrylate as consisting essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800. (Specification, paragraph 0021, lines 3-4; paragraph 0061, line 6).

Claim 42 depends from claim 41. Claim 42 further defines that the pentaerythritol tetra 3(mercaptopropionate) is in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present. (Specification, paragraph 0059, line 5; paragraph 0061, line 10).

The present invention, as set forth in independent **claim 45**, is directed to a kit 40 for depositing an embolic material 34 in a perigraft space between an endovascular graft 10 and a body lumen wall. (Specification, paragraph 0077; Fig. 6). The kit 40 includes an endovascular graft 10 having a generally tubular body 53 having a proximal end 54 and a distal end 52, a proximal inflatable cuff 56 disposed at or near the proximal end 54 of the body 53, a distal inflatable cuff 57 disposed at or near the distal end 52 of the body 53 and an inflatable channel 58, 60 in fluid communication with the proximal and distal cuffs 56, 57. (Specification, paragraph 0079, lines 1-6; paragraph 0086, lines 1-4; paragraph 0087, lines 1-3; Figs 7 and 8).

The kit 40 further includes a delivery device 18, 18', 32 configured to access perigraft space between the endovascular graft 10 and a body lumen wall. (Specification, paragraph 0075, lines 2-3; Fig. 5). The kit 40 further includes a curable embolic material 34 of polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer. (Specification, paragraph 0075, lines 6-8). The polyethylene glycol diacrylate has a molecular weight between 700 and 800. (Specification, paragraph 0021, lines 3-4; paragraph 0061, line 6).

Claim 51 depends from claim 45. Claim 51 further defines the polyethylene glycol diacrylate as consisting essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800. (Specification, paragraph 0021, lines 3-4; paragraph 0061, line 6).

Claim 52 depends from claim 51. Claim 52 further defines that the pentaerythritol tetra 3(mercaptopropionate) is in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present. (Specification, paragraph 0059, line 5; paragraph 0061, line 10).

The present invention, as set forth in independent **claim 56**, is directed to a system 30 for depositing an embolic material 34 in a perigraft space between an endovascular graft 10 and a body lumen wall. (Specification, paragraph 0037, lines 1-3; paragraph 0075, lines 1-2 and 5; Figs 4-5). The system 30 includes an endovascular graft 10 having a generally tubular body 53 having a proximal end 54 and a distal end 52, a proximal inflatable cuff 56 disposed at or near the proximal end 54 of the body 53, a distal inflatable cuff 57 disposed at or near the distal end 52 of the body 53 and an inflatable channel 58, 60 in fluid communication with the proximal and distal cuffs 56, 57. (Specification, paragraph 0079, lines 1-6; paragraph 0086, lines 1-4; paragraph 0087, lines 1-3; Figs 7 and 8). The system 30 further includes a delivery device 18, 18', 32 configured to access perigraft space between the endovascular graft 10 and a body lumen wall. (Specification, paragraph 0075, lines 2-3; Fig. 5). The system 30 further includes an occlusion assembly 36 that is configured to substantially reduce a blood flow through the endovascular graft 10. (Specification, paragraph 0076; Figs. 2-4). The system 30 further includes a curable embolic material 34 that is delivered to the perigraft space with the delivery device 18, 18', 32. (Specification, paragraph 0075, lines 5-6; Fig. 5). The embolic material includes (i) polyethylene glycol diacrylate, (ii) pentaerythritol tetra 3(mercaptopropionate), and (iii) a buffer. (Specification, paragraph 0075, lines 6-8). The polyethylene glycol diacrylate has

a molecular weight between 700 and 800. (Specification, paragraph 0021, lines 3-4; paragraph 0061, line 6). The pentaerythritol tetra 3(mercaptopropionate) is in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present. (Specification, paragraph 0059, line 5; paragraph 0061, line 10). The buffer includes glycylglycine or HEPES. (Specification, paragraph 0011).

Claim 63 depends from claim 56. Claim 63 further defines the polyethylene glycol diacrylate as consisting essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800. (Specification, paragraph 0021, lines 3-4; paragraph 0061, line 6).

VI. Grounds of Rejection to be Reviewed on Appeal

The following grounds of rejection are to be reviewed on this Appeal:

I. Whether claims 51, 52 and 63 fail to comply with the written description requirement under 35 U.S.C. §112, first paragraph?

II. Whether claims 31, 33, 35, 36, 44-46 and 50-54 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. 2006/0263301 A1 to Vernon et al. in view of U.S. Patent Application Publication No. 2006/0224227 A1 to Chobotov and U.S. Patent Application Publication No. 2005/0090901 A1 to Studer?

III. Whether claims 37, 38, 40-43, 48, 49 and 56-65 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. 2006/0263301 A1 to Vernon et al. in view of U.S. Patent Application Publication No. 2006/0224227 A1 to Chobotov and U.S. Patent Application Publication No. 2005/0090901 A1 to Studer and further in view of U.S. Patent Application Publication No. 2005/0052946 A1 to Argentine?

VII. Argument

I. Rejection under 35 U.S.C. §112, first paragraph

Claims 51 and 52

The Examiner has alleged that "the specification teaches the PEGDA [or polyethylene glycol diacrylate] may comprise a molecular weight between 700 and 800, the specification does not teach consisting essentially of the specified molecular weight." (Final Office action dated June 26, 2008, page 2, paragraph 2). Appellants respectfully traverse.

In the specification at paragraph 0061, it is described that "PEGDA having a molecular weight between about 700 and 800" is to be used. (emphasis added). Further, in the specification at paragraph 0012, it is described that "[t]he polyethylene glycol diacrylate typically has a molecular weight between about 700 and about 800." (emphasis added). While the Specification does not literally contain the language "consisting essentially of" with the specified molecular weight range for PEGDA, to satisfy the requirements of Section 112, first paragraph, the description of invention in the specification need not repeat the language of the claims verbatim. *Standard Oil CO. v. Montedison, S.p.A.*, 212 USPQ 327, 334 (3d Cir. 1981), *cert. denied*, 456 U.S. 915 (1982). Indeed, the description in the specification may be made in any manner which adequately communicated the invention to one of ordinary skill in the art reading the application at the time of its filing. *Raytheon Co. v. Roper Corp.*, 220 USPQ 592, 559 (Fed. Cir. 1983); *Standard Oil* at 334.

Moreover, the Examiner has not objected to the claim language of dependent claim 41 under 35 U.S.C. §112, first paragraph. The claim language of claim 41 is not distinctly different from the claim language of claim 51. Thus, consistent with the Examiner's lack of a Section 112 rejection over claim 41, the Section 112 rejection of claim 51 should be withdrawn.

Accordingly, it is respectfully submitted that claim 51 is fully supported by the specification. Therefore, reconsideration and withdrawal of the rejection of claim of claims 51 and 52 under 35 U.S.C. §112, first paragraph, are respectfully requested.

Claim 63

The Examiner has alleged that "the specification teaches the PEGDA [or polyethylene glycol diacrylate] may comprise a molecular weight between 700 and 800, the specification

does not teach consisting essentially of the specified molecular weight." (Final Office action dated June 26, 2008, page 2, paragraph 2). Appellants respectfully traverse.

In the specification at paragraph 0061, it is described that "PEGDA having a molecular weight between about 700 and 800" is to be used. (emphasis added). Further, in the specification at paragraph 0012, it is described that "[t]he polyethylene glycol diacrylate typically has a molecular weight between about 700 and about 800." (emphasis added). While the Specification does not literally contain the language "consisting essentially of" with the specified molecular weight range for PEGDA, to satisfy the requirements of Section 112, first paragraph, the description of invention in the specification need not repeat the language of the claims verbatim. *Standard Oil CO. v. Montedison, S.p.A.*, 212 USPQ 327, 334 (3d Cir. 1981), *cert. denied*, 456 U.S. 915 (1982). Indeed, the description in the specification may be made in any manner which adequately communicated the invention to one of ordinary skill in the art reading the application at the time of its filing. *Raytheon Co. v. Roper Corp.*, 220 USPQ 592, 559 (Fed. Cir. 1983); *Standard Oil* at 334.

Moreover, the Examiner has not objected to the claim language of dependent claim 41 under 35 U.S.C. §112, first paragraph. The claim language of claim 41 is not distinctly different from the claim language of claim 63. Thus, consistent with the Examiner's lack of a Section 112 rejection over claim 41, the Section 112 rejection of claim 63 should be withdrawn.

Accordingly, it is respectfully submitted that claim 63 is fully supported by the specification. Therefore, reconsideration and withdrawal of the rejection of claim 63 under 35 U.S.C. §112, first paragraph, is respectfully requested.

II. Rejection under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. 2006/0263301 A1 to Vernon et al. in view of U.S. Patent Application Publication No. 2006/0224227 A1 to Chobotov and U.S. Patent Application Publication No. 2005/0090901 A1 to Studer

Claims 31, 33, 35, 36, 44-46, 50, 53 and 54

Independent claim 31 is directed to a system comprising, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, wherein the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer; wherein the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800. Independent claim 45 is directed to a kit comprising, *inter alia*, a curable embolic material comprising polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer; wherein the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800.

The Examiner alleges that U.S. Patent Application Publication No. 2006/0263301 A1 to Vernon et al. (hereinafter "Vernon") teaches, *inter alia*, an *in situ* occluding material for the occlusion of blocked arteriovenous malformations or abnormal vasculature in the body. (See, Final Office action dated June 26, 2008, page 3, paragraph 5, lines 4-6; Vernon, paragraph [0002]). lines 17-18. The examiner further alleges that Vernon teaches that its polyethylene glycol diacrylate or PEGDA component of its gelling material has a molecular weight of 570 as follows:

> **"The PEGDA of Vernon comprises a molecular weight of 570 ([0086])."** (Final Office action dated June 26, 2008, page 4, line 15).

The Examiner then relies on the teaching of U.S. Patent Application Publication No. 2005/0090901 A1 to Studer (hereinafter "Studer)" to modify the molecular weight of the PEGDA of Vernon, as follows:

> **"Studer discloses a PEGDA with a molecular weight of 700 to occlude an intervetebral space ([0042])."** (Final Office action dated June 26, 2008, page 4, lines 17-18).

Studer, however, fails to teach or suggest, *inter alia*, that its 700 molecular weight PEGDA may be used in the arteriovenous malformations or abnormal vasculature of Vernon. Moreover, Studer teaches that its PEGDA having a molecular weight of 700 is to be combined with a copolymer of 2,6-dimethyl-3-vinylbenzoyl phosphine oxide (DMVBPO) and dimethyl acrylamide or a copolymer of 4-(VBPO) and dimethyl acrylamide; and that its PEGDA having a molecular weight of 750 is to be combined with a copolymer of 2,4,6-trimethylbenzoyl-phenyl-4-v- inylphenyl phosphine oxide (TMBVPO) and dimethyl acrylamide. The Examiner offers no rationale why one of ordinary skill in the art would modify the molecular weight of the PEGDA of Vernon by the teachings of Studer while excluding the other necessary components of Studer. Further, U.S. Patent Application Publication No. 2006/0224227 A1 to Chobotov (hereinafter "Chobotov") fails to disclose a curable gelling material having a component of PEGDA.

In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose from a reference only so much that supports the alleged rejection. *Id.* It is only through hindsight reconstruction and very selective picking and choosing while ignoring divergent teachings does the Examiner attempt to reach the present invention through the combination of

Vernon and Studer. It is also well established, however, that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness, and any attempt at hindsight reconstruction using Appellant's disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993). Such hindsight reconstruction by the Examiner is clear as both Vernon and Studer individually fail to teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800, as set forth in independent claims 31 and 45.

Moreover, the Supreme Court addressed the standard for obviousness in its decision of *KSR International Co. v. Teleflex Inc., et al.,* 550 U.S. ___; 127 S.Ct. 1727; 167 L.Ed.2d 705; 82 U.S.P.Q.2d 1385 (2007). In order for an examiner to establish a *prima facie* case of obviousness after *KSR*, some degree of predictability is necessary. (82 U.S.P.Q.2d at 1395-97). *Takeda Chemical Industries Ltd. V. Alphapharm Pty. Ltd.,* 83 USPQ2d 1169 (Federal Circuit 2007) is a post *KSR* decision in which the Federal Circuit articulated standards for establishing non-obviousness which again includes predictability of success. (*Id.* at 1176-79). Further, Section 2143.02 (II) of the MPEP states that "Obviousness does not require absolute predictability, however, at least some degree of predictability is required."

Clearly, the disclosures of Vernon and Studer do not provide sufficient predictability or expectation to support a *prima facie* case of obviousness as neither of these references disclose, teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol

diacrylate comprises a molecular weight between 700 and 800, as set forth in independent claims 31 and 45.

Still further, Vernon was filed April 26, 2004, which is well after the filing date of October 22, 2003 of the present application. Vernon does claim priority to U.S. Provisional Application No. 60/465,376, filed April 24, 2003. The provisional application of Vernon, however, fails to disclose, teach or suggest the use of any particular molecular weight of PEGDA, as follows:

> **"The hydrogel may be composed of two Thiole precursors: Pentaerythritol Tetrakis 3' Mercaptopropionate (QT) and Dithiothreitol (DDT); three Acrylate precursors: Polypropylene Glycol Diacrylate (PPODA), Polyethylene Glycol Diacrylate (PEGDA), and Pentaerythritol Triacrylate (TA); and a Phospahte Buffered Solution with Added NaOH."** (U.S. 60/465,376, page 9)

Further, the only formulation presented in provisional application of Vernon contains no PEGDA. (See, U.S. 60/465,376, page 9).

Thus, it is respectfully suggested that the effective filing date for the teachings of Vernon offered by the Examiner with respect to, *inter alia*, the molecular weight of PEGDA is April 26, 2004 and not April 24, 2003. Accordingly, Vernon is not available as a prior art reference in any attempt to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

Therefore, reconsideration and withdrawal of the rejection of claims 31, 33, 35, 36, 44-46, 50, 53 and 54 under 35 U.S.C. §103(a) is respectfully requested.

Claim 51

Claim 51 depends from claim 45. Claim 51 further defines the polyethylene glycol diacrylate (PEGDA) as consisting essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800.

Vernon fails to teach or suggest such a molecular weight of PEGDA as Vernon teaches that its PEGDA must have a molecular weight of 570. (See, Vernon, paragraph [0086], line 7). Further, the provisional application of Vernon is silent on any suitable molecular weight range for Vernon's PEGDA.

Studer teaches that its PEGDA having a molecular weight of 700 is to be combined with a copolymer of 2,6-dimethyl-3-vinylbenzoyl phosphine oxide (DMVBPO) and dimethyl acrylamide or a copolymer of 4-(VBPO) and dimethyl acrylamide; and that its PEGDA having a molecular weight of 750 is to be combined with a copolymer of 2,4,6-trimethylbenzoyl-phenyl-4-v- inylphenyl phosphine oxide (TMBVPO) and dimethyl acrylamide. The Examiner offers no rationale why one of ordinary skill in the art would modify the molecular weight of the PEGDA of Vernon by the teachings of Studer while excluding the other necessary components of Studer. Further, Chobotov fails to disclose a curable gelling material having a component of PEGDA.

In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose

from a reference only so much that supports the alleged rejection. *Id.* It is only through hindsight reconstruction and very selective picking and choosing while ignoring divergent teachings does the Examiner attempt to reach the present invention through the combination of Vernon and Studer. It is also well established, however, that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness, and any attempt at hindsight reconstruction using Appellant's disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993). Such hindsight reconstruction by the Examiner is clear as both Vernon and Studer individually fail to teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol diacrylate consists essentially of a molecular weight between 700 and 800, as set forth in dependent claim 51.

Moreover, the Supreme Court addressed the standard for obviousness in its decision of *KSR International Co. v. Teleflex Inc., et al.*, 550 U.S. ___; 127 S.Ct. 1727; 167 L.Ed.2d 705; 82 U.S.P.Q.2d 1385 (2007). In order for an examiner to establish a *prima facie* case of obviousness after *KSR*, some degree of predictability is necessary. (82 U.S.P.Q.2d at 1395-97). *Takeda Chemical Industries Ltd. V. Alphapharm Pty. Ltd.*, 83 USPQ2d 1169 (Federal Circuit 2007) is a post *KSR* decision in which the Federal Circuit articulated standards for establishing non-obviousness which again includes predictability of success. (*Id.* at 1176-79). Further, Section 2143.02 (II) of the MPEP states that "Obviousness does not require absolute predictability, however, at least some degree of predictability is required."

Clearly, the disclosures of Vernon and Studer do not provide sufficient predictability or expectation to support a *prima facie* case of obviousness as neither of these references disclose, teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space

with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol diacrylate consists essentially of a molecular weight between 700 and 800, as set forth in dependent claim 51.

Therefore, reconsideration and withdrawal of the rejection of claim 51 under 35 U.S.C. §103(a) is respectfully requested.

Claim 52

Claim 52 depends from claim 51. Claim 52 further defines that the pentaerythritol tetra 3(mercaptopropionate) is in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present.

The Examiner relies on Example 3 of Vernon for the alleged teaching of the pentaerythritol-tetrakis (3-mercaptopropionate) being in a proportion ranging of 0.43 times the weight percent of the polyethylene glycol diacrylate. Such a ratio is within the claimed range of 0.31 to 0.53 of dependent claim 52. While Example 3 is present in Vernon, such an example or such a teaching about the weight ratio of pentaerythritol-tetrakis (3-mercaptopropionate) to polyethylene glycol diacrylate is not present in the provisional application for Vernon. (See, U.S. 60/465,376, page 9). Indeed, the only example in the provisional application of Vernon specifically contains zero PEGDA. (See, U.S. 60/465,376, page 9). Further, in the only example in the provisional application for Vernon the weight ratio of pentaerythritol tetrakis 3' mercaptopropionate (QT) to polypropylene glycol diacrylate (PPODA) is 0.07. (See, U.S. 60/465,376, page 9). Assuming *arguendo* that Vernon's PPODA may be replaced with the PEGDA of the present invention, such a weight ratio of 0.07 is well outside the range claimed in dependent claim 52.

Thus, it is respectfully suggested that the effective filing date for the teachings of Vernon offered by the Examiner with respect to, *inter alia,* the weight ratio of QT to PEGDA is April 26, 2004 and not April 24, 2003. Accordingly, Vernon is not available as a prior art reference in any attempt to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

Therefore, reconsideration and withdrawal of the rejection of claim 52 under 35 U.S.C. §103(a) is respectfully requested.

III. Rejection under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. 2006/0263301 A1 to Vernon et al. in view of U.S. Patent Application Publication No. 2006/0224227 A1 to Chobotov and U.S. Patent Application Publication No. 2005/0090901 A1 to Studer and further in view of U.S. Patent Application Publication No. 2005/0052946 A1 to Argentine

Claims 37, 38, 40, 43, 48, 49, 56-62, 64 and 65

Independent claim 56 is directed towards a system comprising, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, wherein the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer; wherein the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800; and wherein the pentaerythritol tetra 3(mercaptopropionate) is in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present.

The Examiner alleges that U.S. Patent Application Publication No. 2006/0263301 A1 to Vernon et al. (hereinafter "Vernon") teaches, *inter alia*, an *in situ* occluding material for the

occlusion of blocked arteriovenous malformations or abnormal vasculature in the body. (See, Final Office action dated June 26, 2008, page 3, paragraph 5, lines 4-6; Vernon, paragraph [0002], lines 17-18). The examiner further alleges that Vernon teaches that its polyethylene glycol diacrylate or PEGDA component of its gelling material has a molecular weight of 570 as follows:

> **"The PEGDA of Vernon comprises a molecular weight of 570 ([0086])."** (Final Office action dated June 26, 2008, page 4, line 15).

The Examiner then relies on the teaching of U.S. Patent Application Publication No. 2005/0090901 A1 to Studer (hereinafter "Studer)" to modify the molecular weight of the PEGDA of Vernon, as follows:

> **"Studer discloses a PEGDA with a molecular weight of 700 to occlude an intervetebral space ([0042])."** (Final Office action dated June 26, 2008, page 4, lines 17-18).

Studer, however, fails to teach or suggest, *inter alia*, that its 700 molecular weight PEGDA may be used in the arteriovenous malformations or abnormal vasculature of Vernon. Moreover, Studer teaches that its PEGDA having a molecular weight of 700 is to be combined with a copolymer of 2,6-dimethyl-3-vinylbenzoyl phosphine oxide (DMVBPO) and dimethyl acrylamide or a copolymer of 4-(VBPO) and dimethyl acrylamide; and that its PEGDA having a molecular weight of 750 is to be combined with a copolymer of 2,4,6-trimethylbenzoyl-phenyl-4-v- inylphenyl phosphine oxide (TMBVPO) and dimethyl acrylamide. The Examiner offers no rationale why one of ordinary skill in the art would modify the molecular weight of the PEGDA of Vernon by the teachings of Studer while excluding the other necessary components of Studer. Further, U.S. Patent Application Publication No. 2006/0224227 A1 to

Chobotov (hereinafter "Chobotov") fails to disclose a curable gelling material having a component of PEGDA.

In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose from a reference only so much that supports the alleged rejection. *Id.* It is only through hindsight reconstruction and very selective picking and choosing while ignoring divergent teachings does the Examiner attempt to reach the present invention through the combination of Vernon and Studer. It is also well established, however, that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness, and any attempt at hindsight reconstruction using Appellant's disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993). Such hindsight reconstruction by the Examiner is clear as both Vernon and Studer individually fail to teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800, as set forth in independent claim 56.

Moreover, the Supreme Court addressed the standard for obviousness in its decision of *KSR International Co. v. Teleflex Inc., et al.,* 550 U.S. ___; 127 S.Ct. 1727; 167 L.Ed.2d 705; 82 U.S.P.Q.2d 1385 (2007). In order for an examiner to establish a *prima facie* case of obviousness after *KSR*, some degree of predictability is necessary. (82 U.S.P.Q.2d at 1395-97). *Takeda Chemical Industries Ltd. V. Alphapharm Pty. Ltd.,* 83 USPQ2d 1169 (Federal Circuit 2007) is a post *KSR* decision in which the Federal Circuit articulated standards for establishing non-obviousness which again includes predictability of success. (*Id.* at 1176-79). Further,

Section 2143.02 (II) of the MPEP states that "Obviousness does not require absolute predictability, however, at least some degree of predictability is required."

Clearly, the disclosures of Vernon and Studer do not provide sufficient predictability or expectation to support a *prima facie* case of obviousness as neither of these references disclose, teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800, as set forth in independent claim 56.

Still further, Vernon was filed April 26, 2004, which is well after the filing date of October 22, 2003 of the present application. Vernon does claim priority to U.S. Provisional Application No. 60/465,376, filed April 24, 2003. The provisional application of Vernon, however, fails to disclose, teach or suggest the use of any particular molecular weight of PEGDA, as follows:

> **"The hydrogel may be composed of two Thiole precursors: Pentaerythritol Tetrakis 3' Mercaptopropionate (QT) and Dithiothreitol (DDT); three Acrylate precursors: Polypropylene Glycol Diacrylate (PPODA), Polyethylene Glycol Diacrylate (PEGDA), and Pentaerythritol Triacrylate (TA); and a Phospahte Buffered Solution with Added NaOH."** (U.S. 60/465,376, page 9)

Further, the only formulation presented in provisional application of Vernon contains no PEGDA. (See, U.S. 60/465,376, page 9).

Moreover, the Examiner relies on Example 3 of Vernon for the alleged teaching of the pentacrythritol-tetrakis (3-mercaptopropionate) being in a proportion ranging of 0.43 times the weight percent of the polyethylene glycol diacrylate. Such a ratio is within the claimed range of 0.31 to 0.53 of independent claim 56. While Example 3 is present in Vernon, such an example or such a teaching about the weight ratio of pentaerythritol-tetrakis (3-mercaptopropionate) to polyethylene glycol diacrylate is not present in the provisional application for Vernon. (See, U.S. 60/465,376, page 9). Indeed, the only example in the provisional application of Vernon specifically contains zero PEGDA. (See, U.S. 60/465,376, page 9). Further, in the only example in the provisional application for Vernon the weight ratio of pentaerythritol tetrakis 3' mercaptopropionate (QT) to polypropylene glycol diacrylate (PPODA) is 0.07. (See, U.S. 60/465,376, page 9). Assuming *arguendo* that Vernon's PPODA may be replaced with the PEGDA of the present invention, such a weight ratio of 0.07 is well outside the range claimed in independent claim 56.

Thus, it is respectfully suggested that the effective filing date for the teachings of Vernon offered by the Examiner with respect to, *inter alia*, the molecular weight of PEGDA and/or to the weight ratio of QT to PEGDA is April 26, 2004 and not April 24, 2003. Accordingly, Vernon is not available as a prior art reference in any attempt to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

Therefore, reconsideration and withdrawal of the rejection of claims 37, 38, 40, 43, 48, 49, 56-62, 64 and 65 under 35 U.S.C. §103(a) are respectfully requested.

Claim 41

Claim 41 depends from claim 37. Claim 41 further defines the polyethylene glycol diacrylate (PEGDA) as consisting essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800.

Vernon fails to teach or suggest such a molecular weight of PEGDA as Vernon teaches that its PEGDA must have a molecular weight of 570. (See, Vernon, paragraph [0086], line 7). Further, the provisional application of Vernon is silent on any suitable molecular weight range for Vernon's PEGDA.

Studer teaches that its PEGDA having a molecular weight of 700 is to be combined with a copolymer of 2,6-dimethyl-3-vinylbenzoyl phosphine oxide (DMVBPO) and dimethyl acrylamide or a copolymer of 4-(VBPO) and dimethyl acrylamide; and that its PEGDA having a molecular weight of 750 is to be combined with a copolymer of 2,4,6-trimethylbenzoyl-phenyl-4-v- inylphenyl phosphine oxide (TMBVPO) and dimethyl acrylamide. The Examiner offers no rationale why one of ordinary skill in the art would modify the molecular weight of the PEGDA of Vernon by the teachings of Studer while excluding the other necessary components of Studer. Further, Chobotov fails to disclose a curable gelling material having a component of PEGDA.

In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose from a reference only so much that supports the alleged rejection. *Id.* It is only through hindsight reconstruction and very selective picking and choosing while ignoring divergent teachings does the Examiner attempt to reach the present invention through the combination of

Vernon and Studer. It is also well established, however, that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness, and any attempt at hindsight reconstruction using Appellant's disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993). Such hindsight reconstruction by the Examiner is clear as both Vernon and Studer individually fail to teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol diacrylate consists essentially of a molecular weight between 700 and 800, as set forth in dependent claim 41.

Moreover, the Supreme Court addressed the standard for obviousness in its decision of *KSR International Co. v. Teleflex Inc., et al.,* 550 U.S. ___; 127 S.Ct. 1727; 167 L.Ed.2d 705; 82 U.S.P.Q.2d 1385 (2007). In order for an examiner to establish a *prima facie* case of obviousness after *KSR*, some degree of predictability is necessary. (82 U.S.P.Q.2d at 1395-97). *Takeda Chemical Industries Ltd. V. Alphapharm Pty. Ltd.,* 83 USPQ2d 1169 (Federal Circuit 2007) is a post *KSR* decision in which the Federal Circuit articulated standards for establishing non-obviousness which again includes predictability of success. (*Id.* at 1176-79). Further, Section 2143.02 (II) of the MPEP states that "Obviousness does not require absolute predictability, however, at least some degree of predictability is required."

Clearly, the disclosures of Vernon and Studer do not provide sufficient predictability or expectation to support a *prima facie* case of obviousness as neither of these references disclose, teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol

diacrylate consists essentially of a molecular weight between 700 and 800, as set forth in dependent claim 41.

Therefore, reconsideration and withdrawal of the rejection of claim 41 under 35 U.S.C. §103(a) is respectfully requested.

Claim 42

Claim 42 depends from claim 41. Claim 42 further defines that the pentaerythritol tetra 3(mercaptopropionate) is in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present.

The Examiner relies on Example 3 of Vernon for the alleged teaching of the pentaerythritol-tetrakis (3-mercaptopropionate) being in a proportion ranging of 0.43 times the weight percent of the polyethylene glycol diacrylate. Such a ratio is within the claimed range of 0.31 to 0.53 of dependent claim 42. While Example 3 is present in Vernon, such an example or such a teaching about the weight ratio of pentaerythritol-tetrakis (3-mercaptopropionate) to polyethylene glycol diacrylate is not present in the provisional application for Vernon. (See, U.S. 60/465,376, page 9). Indeed, the only example in the provisional application of Vernon specifically contains zero PEGDA. (See, U.S. 60/465,376, page 9). Further, in the only example in the provisional application for Vernon the weight ratio of pentaerythritol tetrakis 3' mercaptopropionate (QT) to polypropylene glycol diacrylate (PPODA) is 0.07. (See, U.S. 60/465,376, page 9). Assuming *arguendo* that Vernon's PPODA may be replaced with the PEGDA of the present invention, such a weight ratio of 0.07 is well outside the range claimed in dependent claim 42.

Thus, it is respectfully suggested that the effective filing date for the teachings of Vernon offered by the Examiner with respect to the weight ratio of QT to PEGDA is April 26, 2004 and not April 24, 2003. Accordingly, Vernon is not available as a prior art reference in any attempt to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a).

Therefore, reconsideration and withdrawal of the rejection of claim 42 under 35 U.S.C. §103(a) is respectfully requested.

Claim 63

Claim 63 depends from claim 56. Claim 63 further defines the polyethylene glycol diacrylate (PEGDA) as consisting essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800.

Vernon fails to teach or suggest such a molecular weight of PEGDA as Vernon teaches that its PEGDA must have a molecular weight of 570. (See, Vernon, paragraph [0086], line 7). Further, the provisional application of Vernon is silent on any suitable molecular weight range for Vernon's PEGDA.

Studer teaches that its PEGDA having a molecular weight of 700 is to be combined with a copolymer of 2,6-dimethyl-3-vinylbenzoyl phosphine oxide (DMVBPO) and dimethyl acrylamide or a copolymer of 4-(VBPO) and dimethyl acrylamide; and that its PEGDA having a molecular weight of 750 is to be combined with a copolymer of 2,4,6-trimethylbenzoyl-phenyl-4-v- inylphenyl phosphine oxide (TMBVPO) and dimethyl acrylamide. The Examiner offers no rationale why one of ordinary skill in the art would modify the molecular weight of the PEGDA of Vernon by the teachings of Studer while excluding the other necessary

components of Studer. Further, Chobotov fails to disclose a curable gelling material having a component of PEGDA.

In establishing a *prima facie* case of obviousness, the cited references must be considered for the entirety of their teachings. *Bausch & Lomb, Inc. v. Barnes-Hind, Inc.*, 230 U.S.P.Q. 416, 419 (Fed. Cir. 1986). It is impermissible during examination to pick and choose from a reference only so much that supports the alleged rejection. *Id.* It is only through hindsight reconstruction and very selective picking and choosing while ignoring divergent teachings does the Examiner attempt to reach the present invention through the combination of Vernon and Studer. It is also well established, however, that hindsight reconstruction of a reference does not present a *prima facie* case of obviousness, and any attempt at hindsight reconstruction using Appellant's disclosure is strictly prohibited. *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1445-46 (Fed. Cir. 1993). Such hindsight reconstruction by the Examiner is clear as both Vernon and Studer individually fail to teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol diacrylate consists essentially of a molecular weight between 700 and 800, as set forth in dependent claim 63.

Moreover, the Supreme Court addressed the standard for obviousness in its decision of *KSR International Co. v. Teleflex Inc., et al.,* 550 U.S. ___; 127 S.Ct. 1727; 167 L.Ed.2d 705; 82 U.S.P.Q.2d 1385 (2007). In order for an examiner to establish a *prima facie* case of obviousness after *KSR*, some degree of predictability is necessary. (82 U.S.P.Q.2d at 1395-97). *Takeda Chemical Industries Ltd. V. Alphapharm Pty. Ltd.,* 83 USPQ2d 1169 (Federal Circuit 2007) is a post *KSR* decision in which the Federal Circuit articulated standards for establishing non-obviousness which again includes predictability of success. (*Id.* at 1176-79). Further,

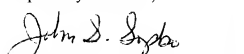
Section 2143.02 (II) of the MPEP states that "Obviousness does not require absolute predictability, however, at least some degree of predictability is required."

Clearly, the disclosures of Vernon and Studer do not provide sufficient predictability or expectation to support a *prima facie* case of obviousness as neither of these references disclose, teach or suggest, *inter alia*, a curable embolic material that is delivered to the perigraft space with the delivery device, where the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer, where the polyethylene glycol diacrylate consists essentially of a molecular weight between 700 and 800, as set forth in dependent claim 63.

Therefore, reconsideration and withdrawal of the rejection of claim 63 under 35 U.S.C. §103(a) is respectfully requested.

Thus, for the reasons set forth herein, claims 31-33, 35-38, 40-46, 48-54 and 56-65 are patentably distinct from the applied art as set forth by the Examiner in the Final Office Action. Reconsideration and withdrawal of the rejections of claims 31-33, 35-38, 40-46, 48-54 and 56-65 are respectfully requested. Rejoinder of withdrawn claims 354, 39, 47 and 66 is also respectfully requested.

Respectfully submitted,



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VIII. Claims Appendix

Claims 1-30. (Canceled)

Claim 31. (Previously presented): A system for depositing an embolic material in a perigraft space between an endovascular graft and a body lumen wall, the system comprising:

an endovascular graft comprising a generally tubular body having a proximal end and a distal end, a proximal inflatable cuff disposed at or near the proximal end of the body, a distal inflatable cuff disposed at or near the distal end of the body and an inflatable channel in fluid communication with the proximal and distal cuffs;

a delivery device configured to access perigraft space between the endovascular graft and a body lumen wall;

an occlusion assembly that is configured to substantially reduce a blood flow through the endovascular graft; and

a curable embolic material that is delivered to the perigraft space with the delivery device, wherein the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer;

wherein the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800.

Claim 32. (Original): The system of claim 31 wherein the occlusion assembly comprises an occlusion member positioned adjacent a distal end of a guidewire.

Claim 33. (Original): The system of claim 32 wherein the occlusion member is an expandable balloon.

Claim 34. (Withdrawn): The system of claim 31 wherein the delivery device comprises a syringe.

Claim 35. (Original): The system of claim 31 wherein the delivery device comprises a catheter.

Claim 36. (Original): The system of claim 31 wherein the embolic material is radiopaque.

Claim 37. (Previously presented): The system of claim 31 wherein the buffer comprises glycylglycine.

Claim 38. (Original): The system of claim 37 wherein the glycylglycine buffer is in a proportion ranging from about 5 to about 40 weight percent.

Claim 39. (Withdrawn): The system of claim 37 wherein the buffer comprises HEPES.

Claim 40. (Original): The system of claim 37 wherein the polyethylene glycol diacrylate is in a proportion ranging from about 50 to about 55 weight percent.

Claim 41. (Previously presented): The system of claim 37 wherein the polyethylene glycol diacrylate consists essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800.

Claim 42. (Previously presented): The system of claim 41 wherein the pentaerythritol tetra 3(mercaptopropionate) is in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present.

Claim 43. (Original): The system of claim 37 wherein the embolic material further comprises saline or other inert biocompatible materials.

Claim 44. (Original): The system of claim 31 wherein the embolic material has a first viscosity upon delivery into the perigraft space and is a solid after the embolic material has substantially cured.

Claim 45. (Previously presented): A kit for depositing an embolic material in a perigraft space between an endovascular graft and a body lumen wall, the kit comprises:

an endovascular graft comprising a generally tubular body having a proximal end and a distal end, a proximal inflatable cuff disposed at or near the proximal end of the body, a distal inflatable cuff disposed at or near the distal end of the body and an inflatable channel in fluid communication with the proximal and distal cuffs;

a delivery device configured to access perigraft space between the endovascular graft and a body lumen wall; and

a curable embolic material comprising polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer;

wherein the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800.

Claim 46. (Original): The kit of claim 45 wherein the delivery device comprises a catheter.

Claim 47. (Withdrawn): The kit of claim 45 wherein the delivery device comprises a syringe and needle configured to percutaneously access the perigraft space.

Claim 48. (Original): The kit of claim 45 wherein the buffer comprises a glycylglycine buffer.

Claim 49. (Original): The kit of claim 48 wherein the glycylglycine buffer is present in a proportion ranging from about 5 to about 40 weight percent.

Claim 50. (Original): The kit of claim 45 wherein the polyethylene glycol diacrylate is present in a proportion ranging from about 50 to about 55 weight percent.

Claim 51. (Previously presented): The kit of claim 45 wherein the polyethylene glycol diacrylate consists essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800.

Claim 52. (Previously presented): The kit of claim 51 wherein the pentaerythritol tetra 3(mercaptopropionate) is present in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present.

Claim 53. (Original): The kit of claim 45 further comprising an occlusion member that is configured to temporarily occlude the body lumen.

Claim 54. (Original): The kit of claim 53 wherein the occlusion member is an inflatable balloon.

Claim 55. (Withdrawn): The kit of claim 45 wherein the buffer comprises HEPES.

Claim 56. (Previously presented): A system for depositing an embolic material in a perigraft space between an endovascular graft and a body lumen wall, the system comprising:

an endovascular graft comprising a generally tubular body having a proximal end and a distal end, a proximal inflatable cuff disposed at or near the proximal end of the body, a distal inflatable cuff disposed at or near the distal end of the body and an inflatable channel in fluid communication with the proximal and distal cuffs;

a delivery device configured to access perigraft space between the endovascular graft and a body lumen wall;

an occlusion assembly that is configured to substantially reduce a blood flow through the endovascular graft; and

a curable embolic material that is delivered to the perigraft space with the delivery device, wherein the embolic material comprises polyethylene glycol diacrylate, pentaerythritol tetra 3(mercaptopropionate), and a buffer;

wherein the polyethylene glycol diacrylate comprises a molecular weight between 700 and 800;

wherein the pentaerythritol tetra 3(mercaptopropionate) is in a proportion ranging from about 0.31 to about 0.53 times the weight percent of the polyethylene glycol diacrylate present; and

wherein the buffer comprises glycylglycine or HEPES.

Claim 57. (Previously presented): The system of claim 56 wherein the occlusion assembly comprises an occlusion member positioned adjacent a distal end of a guidewire.

Claim 58. (Previously presented): The system of claim 56 wherein the occlusion member is an expandable balloon.

Claim 59. (Previously presented): The system of claim 56 wherein the delivery device comprises a catheter.

Claim 60. (Previously presented): The system of claim 56 wherein the embolic material is radiopaque.

Claim 61. (Previously presented): The system of claim 56 wherein the glycylglycine buffer is in a proportion ranging from about 5 to about 40 weight percent.

Claim 62. (Previously presented): The system of claim 56 wherein the polyethylene glycol diacrylate is in a proportion ranging from about 50 to about 55 weight percent.

Claim 63. (Previously presented): The system of claim 56 wherein the polyethylene glycol diacrylate consists essentially of polyethylene glycol diacrylate having a molecular weight between 700 and 800.

Claim 64. (Previously presented): The system of claim 56 wherein the embolic material further comprises saline or other inert biocompatible materials.

Claim 65. (Previously presented): The system of claim 56 wherein the embolic material has a first viscosity upon delivery into the perigraft space and is a solid after the embolic material has substantially cured.

IX. Evidence Appendix

There were no declarations or other evidence submitted during the prosecution of this application.

X. Related Proceedings Appendix

None